INSPECTION CERTIFICATE

(Type 3.1 acc to EN 10204)

Certificate No. C210520 - 3 / 7

Specification ASTM A269-15a /A213-19a /ASME SA213-19

Grade TP316/316L

Melting Process : E.A.F. / V.O.D. / Strand Casting

Date 2021-05-20

Customer PAC Stainless

Purchase Order No. 60616H

Manuf No	Heat No	Lot No	Size (Inch, Ft)		Item	* Chemical Composition(WT %)										
						C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Ti	N
210519	N21855	CSEC21040101	OD 3/8" * 0.065"T * 20'		Spec					0.005	10.00	16.00	2.00			
						0.035	1.00	2.00	0.045	0.015	14.00	18.00	3.00			
					Result(L)	0.010	0.478	1.561	0.0279	0.0082	12.619	17.216	2.615	0.284	0.0030	0.0388
					Result(P)	0.012	0.484	1.582	0.0287	0.0092	12.624	17.226	2.611	0.285	0.0030	0.0367

Mechanical Properties	Yield Strength (ksi)	Tensile Strength (ksi)	Elongation (%)	Hardness Test (HRB)	Eddy Current Test	Visual & Dimensions	Flaring Test	Flattening Test	Surface Roughness (μinch)
Spec	≥30	≥75	≥ 35	≤ 80	no cracks	-	no cracks	no cracks	Ra ≤ 100
Result	35.5	83.1	50.7	78.4	Good	Good	Good	Good	8~23

* Remarks :
-. NACE MR0175 / MR0103
-. Wall Thickness : AW
-. Seamless Tube

It is hereby certified that the above results are true and correct in every details

* Chemical Composition is posted from Mill Maker's certificate.
* Country of Origin : Republic of Korea
* Country of Melt : Republic of Korea
* Heat Treatment : 1,050℃ for 10min(Rapidly Air Cooling)
* Surface Finish : Bright Annealed
* The country of melt and pour : The Republic of Korea

Certification Status

-. Pressure equipment Approval (AD2000-Merkblatt W0 and PED 2014/68/EU)
-. Manufacturer Approval (DNV.GL , RMRS), Product Type Approval (ABS)
-. System Approval : IATF16949:2016, ISO9001:2015, ISO14001:2015, ISO45001:2018

CTC CLEAN TUBE & COIL C T C

Manager of QC Team

A4(210x297)

FO12-03 (Rev.0)